

ABSTRACT OF THE DISCLOSURE

In a gear changing device, when a sun gear rotates in a forward direction, a rotating member is rotated in the same direction as the sun gear and planetary gears are pivotally rotated around the sun gear. When the sun gear rotates in a reverse direction, the rotating member stops rotating and allows the planetary gears to rotate on axes thereof to a plurality of predetermined positions on a path of the planetary gear that pivotally rotates. A plurality of transmission gears are provided at a plurality of predetermined positions along the path of the planetary gear pivotally rotating, so as to engage with each of the planetary gears. A plurality of recesses and projections that are recessed and protruded, respectively, in the diametrical direction of the rotating member are alternately formed in an outer periphery of the rotating member. Each of the recesses and projections has a specific width. A sensor switch that detects the recesses and the projections at a predetermined position is provided. By the gear changing device, rotating directions of the sun gear can be switched at an appropriate timing and operation modes can be smoothly changed.

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